

What is claimed is:

1. A magnetic disk apparatus, comprising:

a magnetic disk for recording information thereon;

a head having a write element for use of recording information

5 onto said magnetic disk and a read element for reproducing information from said magnetic disk; and

an actuator for moving said head to a desired radial position on said magnetic disk, wherein on said magnetic disk is recorded a servo pattern for positioning said head on a recording surface 10 thereof, and said servo pattern includes marker patterns for detecting passage time of said head, being disposed in a front and a rear of a burst pattern for detecting the radial position of said head, respectively, on a track extending in a circumferential direction thereof.

15 2. A magnetic disk apparatus, as described in the claim 1, wherein the marker pattern of said servo pattern written on the recording surface of said magnetic disk is shifted with respect to the marker pattern of said servo pattern, which is written neighboring thereto in the circumferential direction of said 20 magnetic disk, by a half of width thereof, on the position in a radial direction thereof.

25 3. A magnetic disk apparatus, as described in the claim 1, wherein a distance between said servo patterns written on the recording surface of said magnetic disk in the circumferential direction is shorter than a length of said burst pattern.

30 4. A servo pattern recoding method for a magnetic disk apparatus, having a magnetic disk for recording information thereon; a head having a write element for use of recording information onto said magnetic disk and a read element for reproducing information from said magnetic disk; and an actuator

for moving said head to a desired radial position on said magnetic disk, comprising the following steps of:

recording a servo pattern for positioning of said head on a recording surface of said magnetic disk;

5 recording marker patterns for detecting passage time of said head, disposing in a front and a rear of said burst pattern for detecting a radial position of said head, respectively, on a track in a circumferential direction, on said servo pattern recoded on the recording surface of said magnetic disk; and

10 conducting a self servo write operation by said magnetic disk apparatus with using said servo pattern.

5. A servo pattern recoding method for a magnetic disk apparatus, as described in the claim 4, wherein the marker pattern of said servo pattern written on the recording surface of said 15 magnetic disk is recorded by shifting it with respect to the marker pattern of said servo pattern, which is written neighboring thereto in the circumferential direction of said magnetic disk, by a half of width thereof, on the position in a radial direction thereof, when conducting said self-servo write operation.

20 6. A servo pattern recoding method for a magnetic disk apparatus, as described in the claim 4, wherein a distance is measured between the servo patterns neighboring to each other by reproducing two (2) of said servo patterns neighboring to each other in the circumferential direction, which are recorded on the 25 recording surface of said magnetic disk, and upon basis of this distance measured is adjusted a timing of writing when recording a new servo pattern, when conducting said self servo write operation.